

# A Review on Rakshakarma, the Concept of Sterilization in Ayurveda

Dr. Gujrathi Miteshkumar Dilipkumar<sup>1</sup>, Dr. Wasnik Sumedh Vyankatesh<sup>2</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>HOD and Professor,

<sup>1,2</sup>Department of Shalyatantra, PMT's Ayurved College, Shevgaon, Maharashtra, India

## ABSTRACT

Ayurveda is a complete health science comprises of eight branches known as *ashtang ayurveda*. *Shalya tantra* is a chief branch among it which deals with many surgical and parasurgical interventions. Since surgical procedures are involved and risk of secondary infections is there, it has been advised in many ayurvedic texts by some *acharyas* about Sterilization or *Nirjantukikaran* of OT, instruments and surgical wards which comes under the heading of *Rakshakarma*. For successful sterilization of OT, surgical wards, labour rooms, neonatal wards many *dhoopan dravyas* and *rakshoghna dravyas* has been told to keep patient safe from getting any infection and for instruments and accessories heat, *kwath dravyas*, sunlight etc are used. *Rakshakarma* is one of the *Sixty upakram* mentioned for the management of *vrana* or wound, stated by *Acharya sushruta*. It has been found that concept of *Rakshakarma* in ayurveda is much effective for providing a complete protective shield to the patient against any infection.

**KEYWORDS:** Sterilization, *Nirjantukikaran*, *Rakshakarma*, *Upakram*, *dhoopan dravya*, *rakshoghna dravya*

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## INTRODUCTION

Ayurveda is the oldest science of health in the world comprising of all the branches of medical sciences which are fulfilled with number of literatures with detailed coverage of diseases and treatments. *Shalya tantra* is one of the chief branches of ayurveda and proven as good as modern surgical branch. *Sushrut samhita* is a chief ayurvedic text representing *shalya tantra* based on practical observations as well as theoretical writings. Since *shalya tantra* deals with all surgical and parasurgical procedures, risk of secondary infection is always involved there. For that there is a great need to keep environment free from germs, microorganisms, spores and fungi for the instruments, Operation Theatre, surgical wards, all accessories, clothes of surgical interventions.

Sterilization is a process of freeing an article, or a surface or a medium from all the microorganisms either by removing or killing them which might be in both vegetative or spores state. To get the successful results from any surgical treatment it is highly necessary to have completed the procedures in aseptic precautions. Environment is full of millions of microorganisms around us in air, water n everywhere. Dead cells fallen from surface of the body carries thousands of such organisms and surprisingly it contributes near about 37% of our house hold dusts. Not only this, even gram positive cocci known by staphylococcus

aureus lives in the nostrils of 30% population.<sup>[1]</sup> These are harmful and pathogenic especially in an open wounds, incisions and can turn into major complications. Hence it creates a lot of importance to disinfects the operation theatre before proceeding to any major or minor operative procedures<sup>[2]</sup>.

*Acharya Sushrut* has explained *sixty upakramas* for the management of wound, out of which last one is *Rakshakarma* to keep the wound sterile, infection free and healthy, by following *rakshavidhaan* i.e protocols of sterilization and applying *gugguladi dhoop* to save wounds from invisible creatures i.e microorganisms.

निशाचरेभ्योरक्ष्यस्तुनित्यमेवक्षतातुरः

रक्षाविधानैरुद्दिष्टैर्मैः सनियमैस्तथा : ॥ सु.चि. १ / १३२<sup>[3]</sup>

In post operative measures wound should be properly irrigated and then paste of medications should be applied followed by bandaging. Fumigation of wound should be done by pain relieving, *dhoopan* and *rakshoghna dravyas* to keep the wound healthy and free from contamination. Moreover *Acharya sushruta* explained that the wound should be fumigated with mixtures of powders of *Guggulu*, *Agaru*, *Raal*, *Vacha*, *Sarshap*, *Saindhava*, *Nimbpatra* alongwith *Goghrita*.

ततो गुग्गुलागुरुसर्जरसवचागौरसर्षपचूर्णैर्लवणानिम्बपत्रविमिश्रैराज्ययुक्तैर्धूपयेत्,  
आज्यशेषेण चास्य प्राणानसमालभेत। सु. सु. ५ / १८<sup>[4]</sup>

All the above stated *Rakshoghna* and *dhoopan dravyas* are not only used for fumigation of wound but also used for fumigation of clothes and accessories of patients along with surgical ward. This keeps wound healthy and away from infection and contaminations. All this leftover *lepa* of these medications should be applied over the region of heart and other vital parts of the body to feel fresh and healthy.

*Sushrut samhita* is *shalya tantra pradhan grantha* which explained various surgeries since ancient times very effectively like abdominal, anorectal, gynaecological, obstetrical, ophthalmological, etc, with detailed information regarding *yantra's* and *shastra's* which are most primary tools in proceeding any surgery effectively. But for its successful results and no complications like secondary infections it has been explained that these instruments should be sterilized along with *vrantagaar*, *kumaragaar*, *sutikagaar*, surgical rooms and wards by various *dhoopan* and *rakshoghna dravyas*. *Acharya Dalhana* told that there is no fear of any infection and contamination of wound if instruments and accessories are well sterilized. *Acharya sushrut* also explained *mantradi uchhar* along with fumigations to save wounds from infections. He told that *Mantrachchar* of praising lord *Brahma*, *Vishnu*, *Mahesh*, *Panchmahabhutas*, *Dev*, *Raja* and *Gandharvas* makes patient happy n painless and his lives can be saved thus.

अग्निपत्नेन शस्त्रेण छिंद्यान्मधुसमायुतं॥ सु. चि. २ / ४६<sup>[5]</sup>  
अग्निपत्नेन शस्त्रेण छिंद्यात् अन्यथा अतप्तशस्त्रेच्छेदेनापि कथं भयं स्यात्॥ डल्हण<sup>[6]</sup>

Unlike *Acharya Sushrut*, *Rakshavidhaan* has been stated by *Kashyap Samhita* too, in the special *adhyay* by name *Dhoop kalpa* and explained *rakshoghna* and *dhoopan dravyas* in it, of which some are as *Goghrita*, *Sarshapa*, *Hingu*, *Devnirmalya* i.e flowers of herbs offered to god, *Akshata* i.e rice, *Sarptvak* i.e shedded skin of snake, *Bhikshusanghati* i.e saffron colour cotton cloth used by *bhikshus*. All these are used as *dhoopan* drugs to prevent some paediatric diseases harassed by devils who inhibit proper growth and development of children as well these *dhoop kalpa* were used potently to fumigate cloths and paediatric wards, beds and accessories of children. *Acharya kashyap* has stated total 40 *dhoop's* categorized as a) *Dhoop*, b) *Anudhoop* and c) *Pratidhoop* and in 2 different *dhoopyonis* viz a) *Sthavar dhoop* and b) *Jangam dhoop*.

घृतसिद्धार्थकोहिं गुदे वनिर्माल्यमक्षताः ।  
सर्पत्वग्भिक्षुसंघाटीधूपोरक्षोघ्न उच्यते ॥ का. सं. धूपकल्पोध्याय<sup>[7]</sup>

Similarly *Acharya charak* also gave contribution in *Rakshakarma* by explaining *dhoopankarma* to prevent contamination of *vrana* or wound by *dhoop* of following drugs such as *Raala* or *sari*, *guggulu*, *chandana*, *agaru*, *ghrita*. These *dhoopa* not only kills all microorganisms in wound but also diminish other complications like sticky discharge, foul smelling, pain and inflammation of the wound, Thus keep the wound healthy n helps it to heal faster<sup>[8,9]</sup>.

कठिणत्वं व्रणायान्तिगन्धैः सारैश्च धूपिताः ।  
सर्पिर्मज्जवसाधूपैः शैथिल्यं यान्ति हि व्रणाः ॥ च. चि. २५ / १०८

रुजः स्त्रावाश्च गन्धाश्च कृमयश्च व्रणाश्रिताः ।  
शैथिल्यं मार्दवं चापि धूपनेनोपशम्यति ॥ च. चि. २५ / १०९

While explaining *vranshodhak kashay*, *Acharya charak* has explained following drugs to clean the wounds by making decoctions of it, it includes *Hirada*, *Behada*, *Aavla*, *Khadira tvak*, *Daruharidra*, *Nyagrodh*, *Bala*, *Kushmoola*, *Leaves of Nimb* and *Badar*<sup>[10]</sup>

त्रिफलाखदिरोदार्वीन्यग्रोधादिर्बलाकुशः ।  
निम्बकोलकपत्राणिकषायाः शोधनामताः ॥ च. चि. २५ / ८४

*Acharya Vagbhata* has also explained about *Rakshakarma* in reference of *vrana shodhana* i.e protection of wound from contamination of various microorganisms by several *dhoopa dravyain Ashtangasangraha Uttarsthana* in chapter 38<sup>th</sup> *Shastrakarmavidhi*, the drugs stated are as follows *Guggulu*, *Agaru*, *Ghruta*, *Saindhava*, *Vacha*, *Sarshap*, *Hingu*, *Sarjrasa* or *Shaal* and *Nimbpatra*<sup>[11]</sup> Moreover *Acharya Vagbhata* also explained fumigants for baby's apartment made up of dried crow feathers along with *vacha*, *kushtha*, *srivesta*, *sarshap*, *trivarta* by adding bit *goghrita* in it<sup>[12]</sup>. He also explained that do not sneeze or laugh or yawn without covering your mouth, this may contaminate any wound and create infection as well as there are chances of respiratory tract disorders.

*Ashtang hridayam* has also shaded a light on the topic *Rakshakarma* in *Uttartantra* chapter 25<sup>th</sup> *Vranavidnyaniyam* by explaining decoctions and other *upakramas* for the management of infected wounds by *Surasadi gana* and *Aaragvadi gana* along with *Nimb* and *Padwalin* such conditions<sup>[13,14]</sup> he also stated *dhoopan dravyas* of jaw, *Bhurjapatra*, *Ghruta*, *Devdar*, *Gandhabiroja* to destroy all microorganisms and allows wound to heal properly<sup>[15]</sup>. *Acharya* also stated about fumigation of paediatric ward, bed with *rakshoghna* and *dhoopan dravyas* in *Balopacharniyam adhyay*. Moreover he explained Fumigations of killed crow pasted with some *sneha's viz vasa*, *tail* and *majja* shows its supreme effect<sup>[15]</sup>.

## DISCUSSION:

Various references by various *acharyas* from different *samhitas* have been collected to get a brief idea of sterilization in ancient era. The aseptic approach to sterilize instruments i.e *yantra's* and *shastra's*, various wards related to medical branches such as surgical ward, paediatric ward, *kumaragaar*, *sutikagaar*, OT Rooms, *vrantagaar* by various *dhoopan* and *rakshoghna dravyas* to save the wounds and surgical procedures against infection in aseptic medium is seen under the heading of *Rakshakarma* by *acharya sushrut*. Moreover *Mantradi* treatment has also been said for the relaxation and happiness of patient.

## CONCLUSION:

Ayurveda has always been criticized for lack of standard protocols for surgical procedures. Sterilization is one of such prime protocols to which ayurveda has shown that it had broad vision thousand years ago too. Ayurvedic herbal *dhoop* are not only potent enough to sterilize the instruments and wards but also aid potentially to keep environment clean naturally without any hazardous side effects of various chemicals used by modern sciences. Surgery is a boon to the society and proudly saying that it was given to the whole world by ayurveda only thousand years before by following

all necessary protocols and measures. Ayurvedic method of sterilization is cost effective, result oriented, less adverse effects and can be an alternative to modern sterilization.

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